Curriculum Vitae

Maikl Awad
Email: maiklawad311@gmail.com | Ann Arbor, MI

WORK EXPERIENCE

Machine Learning Researcher | University of Michigan | Ann Arbor, MI | Jun 2024 – Jan 2025

- Applied the **full machine learning cycle**; from data collection and model training to optimization.
- Developed **embedded systems** in **C** using **nRF Connect SDK** on **Zephyr RTOS**.
- Interfaced with peripherals via **GPIO**, **I2C**, and **register-level programming**.
- Integrated **Bluetooth Low Energy** advertising and conducted packet analysis using WireShark.
- Applied **digital signal processing**, such as Kalman filtering to refine sensor data.
- **Designed** and **3D printed** custom enclosures for all project components.

Software Developer | True Community Credit Union | Westland, MI | Oct 2024 - Current

- Wrote code to **migrate 105,000 members** into the HubSpot CRM.
- **Developed a big data API** that automatically manages the export of all our member and product data f
- **Developed a filtering system** for index files that **reduced manual labor by 92%**.
- **Developed a rewards widget microservice**

Software Developer | Ford Direct | Dearborn, MI | Aug 2022 - Oct 2024

- **Developed a big data framework** in Databricks which was adopted by 4 teams.
- **Leveraged Jenkins** for **CI/CD** of our deployments and automated workflows.
- **Developed Azure DevOps pipelines** for seamless execution of **Databricks jobs**.
- **Automated Serenity testing** for **3,000+ websites** across multiple products.
- **Automated over 1,000 tests**, which **cut manual effort by 95%**.
- Developed **HTML reports, ELK** and **Azure DevOps dashboards** for automation results.
- Integrated **SonarQube** into **Azure DevOps** and **Bitbucket** for enhanced code quality.
- **Led the daily agile stand ups.**

Application Engineer | Automated Machine Systems | Jenison, MI | Oct 2021 - Aug 2022

- Analyzed **part data, machine designs,** and **documentation** to deliver precise project kick-offs.
- Sourced and **designed 2D** and **3D models** with **Design for Assembly (DFA)** techniques.
- Engineered efficient conveyor systems per customer requirements.

RESEARCH

University of Michigan | Dr. Christopher Brooks | Smart Barbell Collar | June 2024 – Current

- Collected data for 5 distinct exercises from multiple participants, producing **over 16,000 training data windows** from numerical abstractions of raw sensor data.
- Achieved **94% accuracy** in real-time exercise detection with our machine learning model.
- **Presented** at the **MeTRIC Symposium**
- **Published findings** in the University of Michigan's **Deep Blue Document Repository.**
- **Poster -** https://docs.google.com/presentation/d/1Dqh8c6I8UeLtqE49n_uqsVCD3K4QQGWkdAEo0cYCNzo/edit?usp=sharing

EDUCATION

Oakland University
B.I.S focus in Computer Science
GPA: 3.96 / 4.0

AWARDS

Oakland University - Summa Cum Laude
Oakland University - President's List

CERTIFICATIONS

Data Science Professional Certificate (2024)
Cert ID - 898eabece65aff6a7a3393f1866b41644048a6b8f23c8f0dcf5de4a87ef65cf

Become a Software Developer (2023)
Cert ID - AVkG5UK8_7uFUtCbfS3aDLeS3sSb

SQL Programming (2022)
Cert ID - AZwiQeVNFGPiDBSloHrNdLGJGSd9

SKILLS

Advanced Statistics, Advanced Mathematics, Data Science, Machine Learning, Convolutional Neural Networks (CNN), Reinforcement Learning, Large Language Models (LLM), Bayesian Methods, Data Collection, Data Preprocessing, Feature Engineering, Data Visualization, A/B Tests, Machine Learning Deployment, Kalman Filtering, JavaScript, Python, C, ReactJS, HTML, CSS, NPM, ReactJS, Backend Development, API Design, RESTful APIs, Azure, Docker, Linux, Git, Embedded Systems, MongoDB, SQL Server, Elastic Search, 2D/3D Modeling, 3D Printing

PROJECTS

Smart Barbell Collar (Neural Network and Random Forest)

GPT - 2: Storyteller AI (CNN and Transformer Architecture)

8 Bit Computer TTL Chips Only: From Scratch (In progress)

Authoring Ebooks on topics ranging from Mathematics to Embedded Systems (In progress, website link coming soon)

Media Mixed Modeling (Bayesian Methods With Ad-stock and Saturation Regression)

Brain Tumor Classification (Convolutional Neural Network)

Scene Object Detection (Convolutional Neural Network)

Drawing Recognizer (Neural Network and kNN)

Self-Driving AI Car (Reinforcement Learning)

Path Finding Visualizer

Sorting Algorithms Visualizer

Natural Systems Simulator

Project Showcase w/ Visuals - https://www.canva.com/design/DAGbvO3CoaY/P3qtjO6CgYOIMIyzpZ4Ucg/view

AREAS OF INTEREST

- Human Activity Recognition (HAR) and Predictive Metrics in Health and Fitness
- Autonomous Systems
- AI for Crime Prediction and Prevention
- Generative AI and Image Recognition for Visual Intelligence
- Reinforcement Learning in Simulation-Based Environments

COMMUNITY ENGAGEMENT

Habitat for Humanity

- I have contributed to the construction of **3 homes for low-income families**.

Forgotten Harvest

- I have helped sort and save over **700 pounds of surplus food** for community members in need.